



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/562,884	12/29/2005	Govert Nieuwland	NL030790US1	6929
24737 7590 10/23/2008 PHILIPS INTELLECTUAL PROPERTY & STANDARDS P.O. BOX 3001 BRIARCLIFF MANOR, NY 10510				
EXAMINER SANEI, HANA ASMAT				
ART UNIT 2889		PAPER NUMBER		
MAIL DATE 10/23/2008		DELIVERY MODE PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/562,884

**Applicant(s)**

NIEUWLAND ET AL.

**Examiner**

HANA A. SANEI

**Art Unit**

2889

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 July 2008.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 4-15 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☒ Claim(s) 10-15 is/are allowed.  
6) ☒ Claim(s) 1, 4 and 7-9 is/are rejected.  
7) ☒ Claim(s) 5-6 is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 29 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Response to Amendment***

The Amendment, filed on 7/14/08, has been entered and acknowledged by the Examiner.

Cancellation of claim(s) 2-3 have been entered.

Claim(s) 1, 4-15 are pending in the instant application.

***Priority***

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claim(s) 1, 4, 7-9 rejected under 35 U.S.C. 103(a) as being unpatentable over Voort et al. (WO 00/34980) in view of We et al. (Pat. No. 5795837) as cited by the applicant.

Regarding Claim 1, Voort teaches a light-transmissive ceramic discharge vessel (1, "light-transmissive ceramic lamp vessel," Page 4, lines 26-27, See at least Fig. 1); a first and a second current conductor (2, 3, "current conductors," p. 4, lines 27-28) entering the discharge vessel (1) and each supporting an electrode (4, 5) in the

discharge vessel; an ionizable filling comprising a rare gas (Ar gas, p. 4, line 33) and a metal halide ("metal halide," p. 4, lines 33-34) in the discharge vessel; at least the first current conductor (2) within the discharge vessel being halide-resistant (21, "first halide resistant part," p. 5, lines 1-2), characterized in that the first current conductor (2) at least substantially comprises a material with an at least substantially isotropic coefficient of thermal expansion ( $\text{Mo}_5\text{Si}_3$ , "pentamolybdenum trisilicide," p. 5, lines 4-6). Voort fails to teach the material being formed of  $\text{Mo}_5\text{Si}_3\text{C}$ .

In the same field of endeavor of **isotropically based coefficient of thermal expansion compositions**, We teaches the material being chosen from the group of  $\text{Y}_p\text{Si}_3\text{X}_q$ , wherein Y is chosen from Mo, W, and Ta, and X is B, Al, N, or C with  $4 \leq p \leq 5$  and  $0 < q \leq 1$  ( $\text{Mo}_5\text{Si}_3\text{C}$  composite, Col. 4, lines 52-55) in order to provide sufficient mechanical properties such as strength and fracture toughness while maintaining these properties with good stabilities at high temperatures (Col. 1, lines 53-56 & Col. 5, lines 6-11). It should additionally be noted that modifying the composite  $\text{Mo}_5\text{Si}_3$ , of Voort, with We's  $\text{Mo}_5\text{Si}_3\text{C}$  creates a material that is better able to resist heat degradation in the lamp, as the melting point of the material  $\text{Mo}_5\text{Si}_3\text{C}$ , to We, is significantly greater than the melting point of the material  $\text{Mo}_5\text{Si}_3$ , to Voort.

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify the composition of part of the first conductor, as disclosed by We, in the discharge lamp of Voort in order to provide sufficient mechanical properties such as strength and fracture toughness while maintaining these properties with good stabilities at high temperatures.

Regarding Claim 4, Voort teaches that the second current conductor (3, Fig. 1) at least substantially comprises a material with an at least substantially isotropic coefficient of thermal expansion (second conductor, 3, comprises  $\text{Mo}_5\text{Si}_3$ ; p. 5, lines 22-25).

Regarding Claim 7, Voort teaches that the first and the second current conductor (2, 3) each extend from a sealing compound (6, "sealing compound," p. 4, line 30), which seals the discharge vessel (1) around the current conductors (2,3) in a gastight manner, to the exterior of the discharge vessel (exterior of 1), and wherein the discharge vessel has projecting plugs (11,12, "narrow end parts," p. 5, lines 11-12) in each of which a respective current conductor (2,3) is enclosed and which plugs (11,12) each have a free end (111,112) where the discharge vessel is sealed by the sealing compound (6).

Regarding Claim 8, Voort teaches the invention set forth above (see rejection in Claim 4 above). Voort fails to teach the second current conductor being formed of  $\text{Mo}_5\text{Si}_3\text{C}$ .

In the same field of endeavor of **isotropically based coefficient of thermal expansion compositions**, We teaches the material being chosen from the group of  $\text{Y}_p\text{Si}_3\text{X}_q$ , wherein Y is chosen from Mo, W, and Ta, and X is B, Al, N, or C with  $4 \leq p \leq 5$  and  $0 < q \leq 1$  ( $\text{Mo}_5\text{Si}_3\text{C}$  composite, Col. 4, lines 52-55) in order to provide sufficient mechanical properties such as strength and fracture toughness while maintaining these properties with good stabilities at high temperatures (Col. 1, lines 53-56 & Col. 5, lines 6-11). It should additionally be noted that modifying the composite  $\text{Mo}_5\text{Si}_3$ , of Voort, with We's  $\text{Mo}_5\text{Si}_3\text{C}$  creates a material that is better able to resist heat degradation in the

lamp, as the melting point of the material  $\text{Mo}_5\text{Si}_3\text{C}$ , to We, is significantly greater than the melting point of the material  $\text{Mo}_5\text{Si}_3$ , to Voort.

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify the composition of part of the first conductor, as disclosed by We, in the discharge lamp of Voort in order to provide sufficient mechanical properties such as strength and fracture toughness while maintaining these properties with good stabilities at high temperatures.

Regarding Claim 9, Voort teaches that the first current conductor (2) further comprises a material ( $\text{Mo}_5\text{Si}_3$ , "pentamolybdenum trisilicide," p. 5, lines 4-6) with a coefficient of thermal expansion corresponding to a coefficient of thermal expansion of the discharge vessel (1, "light-transmissive ceramic lamp vessel," Page 4, lines 26-27, See at least Fig. 1).

***Allowable Subject Matter***

A. Claim(s) 5 are objected as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is an examiner's statement of reasons for allowance:

The prior art of record teaches an electric discharge lamp comprising a light-transmissive ceramic discharge vessel; a first and a second current conductor entering the discharge vessel and each supporting an electrode in the discharge vessel; an ionizable filling comprising a rare gas and a metal halide in the discharge vessel; at least the first current conductor within the discharge vessel being halide-resistant,

characterized in that the first current conductor at least substantially comprises a material with an at least substantially isotropic coefficient of thermal expansion; wherein also the second current conductor at least substantially comprises a material with an at least substantially isotropic coefficient of thermal expansion.

However, the prior art of record neither anticipates nor renders obvious to one ordinary skilled in the art the electric discharge lamp comprising the various elements as claimed above in combination with the specific limitation of the material of the second current conductor being of the composition  $\text{Mo}_6(\text{Si}_x, \text{Mo}_{1-x})_4(\text{C}_y, \text{Si}_{1-y})_6$  with  $0.10 \leq x \leq 0.55$  and  $0.15 \leq y \leq 0.40$  as set forth in Claim 5.

B. Claim(s) 6 are objected as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is an examiner's statement of reasons for allowance:

The prior art of record teaches an electric discharge lamp comprising a light-transmissive ceramic discharge vessel; a first and a second current conductor entering the discharge vessel and each supporting an electrode in the discharge vessel; an ionizable filling comprising a rare gas and a metal halide in the discharge vessel; at least the first current conductor within the discharge vessel being halide-resistant, characterized in that the first current conductor at least substantially comprises a material with an at least substantially isotropic coefficient of thermal expansion.

However, the prior art of record neither anticipates nor renders obvious to one ordinary skilled in the art the electric discharge lamp comprising the various elements as claimed above in combination with the specific limitation of the material of the first current conductor is co-sintered to the ceramic material of the discharge vessel as set forth in Claim 6.

C. Claim(s) 10-15 are allowed over the prior art of record.

The following is an examiner's statement of reasons for allowance:

The prior art of record teaches an electric discharge lamp comprising: a light-transmissive ceramic discharge vessel; a first and a second current conductor entering the discharge vessel and each supporting an electrode in the discharge vessel; an ionizable filling comprising a rare gas and a metal halide in the discharge vessel; at least the first current conductor within the discharge vessel being halide-resistant, characterized in that the first current conductor at least substantially comprises a material with an at least substantially isotropic coefficient of thermal expansion,

However, the prior art of record neither anticipates nor renders obvious to one ordinary skilled in the art the electric discharge lamp comprising the various elements as claimed above in combination with the specific limitation of the material of the first current conductor being of the composition  $\text{Mo}_6(\text{Si}_x, \text{Mo}_{1-x})_4(\text{C}_y, \text{Si}_{1-y})_6$  with  $0.10 \leq x \leq 0.55$  and  $0.15 \leq y \leq 0.40$  as set forth in Claim 5.

Claim(s) 11-15 are allowable because of their dependency status from Claim 10.



***Response to Arguments***

Applicant's argument(s) filed on 7/14/08 have been fully considered but are moot in view of applicant's failure to present substantive argument(s).

Applicant's assertion that since Claim 1 of *Cillessen* (U.S. Pat. No. 6992430) was allowed over Voort, then the presented Claim 1 as amended filed must be allowable is inadequate.

For the reasons stated above, the rejection of the claims is deemed proper.

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a). A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hana A. Sanei whose telephone number is (571)-272-8654. The examiner can normally be reached on Monday- Friday, 9 am - 5 pm. If

attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Minh-Toan Ton can be reached on (571) 272-2303. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/ Hana A. Sanei /  
Examiner

/Toan Ton/  
Supervisory Patent Examiner  
Art Unit 2889